

Amendments to the Claims:

Claims 11, 12, 17, 19, 20, 25, 27 and 29 are amended. Claims 1-10 have been canceled. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. - 10. (Canceled)

11. (Currently Amended) A system that allows a user to control a movement of an endoscope, the endoscope being located within an ~~endoscope~~ first coordinate system that has a left-right axis and an up-down axis which are orthogonal to each other and to a longitudinal axis of the endoscope, comprising:

a first actuator located within a ~~world~~ second coordinate system;

a second actuator that is coupled to said first actuator and located in the ~~world~~ second coordinate system, said first and second actuators being capable of moving the endoscope;

an input device that can receive a command from the user to move the endoscope along the up-down axis in the ~~endoscope~~ first coordinate system;

a controller that receives the user command and transforms the movement of the endoscope in the ~~endoscope~~ first coordinate system to a movement of the endoscope in the ~~world~~ second coordinate system, and provides output signals to move said first and second actuators ~~to move the endoscope~~ in the ~~world~~ second coordinate system so that the endoscope moves along the up-down axis of the first coordinate system regardless of the orientation of the second coordinate system with respect to the first coordinate system.

12. (Currently Amended) The system of claim 11, further comprising a third actuator coupled to said second actuator and located within the ~~world~~ second coordinate system.

13. (Previously presented) The system of claim 11, further comprising an end effector that is coupled to said controller and spins the endoscope.

14. (Previously presented) The system of claim 11, wherein said input device is a foot pedal.

15. (Previously presented) The system of claim 11, wherein said first and second actuators include electric motors.

16. (Previously presented) The system of claim 11, further comprising a first position sensor coupled to said first actuator and a second position sensor coupled to said second actuator.

17. (Currently Amended) The system of claim 11, wherein said controller transforms the movement of the endoscope in the ~~endoscope~~ first coordinate system to movement of the endoscope in the ~~world~~ second coordinate system in accordance with a plurality of transformation equations said first and second actuators.

18. (Previously presented) The system of claim 11, further comprising a table that is coupled to said first and second actuators.

19. (Currently Amended) A medical system that can be controlled by a user, comprising:

a first actuator located within a ~~world~~ first coordinate system;

a second actuator that is coupled to said first actuator and located in the ~~world~~ first coordinate system;

an endoscope that is coupled to said first and second actuators, said endoscope being located within an ~~endoscope~~ second coordinate system that has a left-right axis and an up-down axis which are orthogonal to each other, and to a longitudinal axis of the endoscope;

an input device that can receive a command from the user to move the endoscope along the up-down axis in the ~~endoscope~~ second coordinate system; and,

a controller that receives the user command and transforms the movement of the endoscope in the ~~endoscope~~ second coordinate system to a movement of the endoscope in the ~~world~~ first coordinate system, and provides output signals to move said first and second actuators ~~to move the endoscope in the world~~ first coordinate system so that the endoscope moves along the up-down axis of the second coordinate system regardless of the orientation of the first coordinate system with respect to the second coordinate system.

20. (Currently Amended) The system of claim 19, further comprising a third actuator coupled to said second actuator and located within the ~~world~~ first coordinate system.

21. (Previously presented) The system of claim 19, further comprising an end effector that is coupled to said controller and spins the endoscope.

22. (Previously presented) The system of claim 19, wherein said input device is a foot pedal include electric motors.

24. (Previously presented) The system of claim 19, further comprising a first position sensor coupled to said first actuator and a second position sensor coupled to said second actuator.

25. (Currently Amended) The system of claim 19, wherein said controller transforms the movement of the endoscope in the ~~endoscope~~ first coordinate system to movement of the endoscope in the ~~world~~ second coordinate system in accordance with a plurality of transformation equations.

26. (Previously presented) The system of claim 19, further comprising a table that is coupled to said first and second actuators.

27. (Currently Amended) A method for controlling a movement of an endoscope, comprising:

inputting a command to move an endoscope along an up-down axis of a ~~endoscope~~ first coordinate system, wherein the up-down axis and a left-right axis are orthogonal to each other and a longitudinal axis of the endoscope;

transforming the command to move the endoscope in the ~~endoscope~~ first coordinate system to a movement in a ~~world~~ second coordinate system; and

sending output signals to move a first actuator and a second actuator ~~to move the~~ ~~endoscope~~ in the ~~world~~ second coordinate system so that the endoscope moves along the up-down axis of the first coordinate system regardless of the orientation of the second coordinate system with respect to the first coordinate system.

28. (Previously presented) The method of claim 27, wherein the endoscope is spun.

29. (Currently Amended) The method of claim 27, wherein the transformation between the ~~endoscope~~ first coordinate system and the ~~world~~ second coordinate system is performed in accordance with a plurality of transformation equations.

30. (Previously presented) The method of claim 27, wherein the endoscope pivots about a pivot point formed at an incision of a patient.